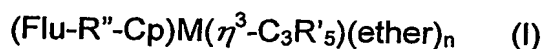


**CLAIMS.**

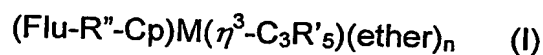
1. A metallocene catalyst component of formula



wherein Cp is a cyclopentadienyl, substituted or unsubstituted, Flu is a fluorenyl, substituted or unsubstituted, R'' is a structural bridge between Cp and Flu imparting stereorigidity to the component, M is a metal Group III of the Periodic Table, each R' is the same or different and is hydrogen or a hydrocarbyl having from 1 to 20 carbon atoms and n is 0, 1 or 2.

2. The metallocene catalyst component of claim 1 wherein M is yttrium, lanthanum, neodymium or samarium.
3. The metallocene catalyst component of claim 1 or claim 2 wherein R'' is CMe<sub>2</sub>.
4. The metallocene catalyst component of any one of the preceding claims wherein C<sub>3</sub>R'<sub>5</sub> is CH<sub>2</sub>-CH=CH<sub>2</sub>.
5. A method for preparing the catalyst component of any one of claims 1 to 4 based that comprises the steps of:
- a) suspending MCl<sub>3</sub>(THF)<sub>n</sub> in ether;
  - b) suspending a dilithium salt of (Cp-R''-Flu) in ether;

- c) carrying out the salt metathesis reaction of suspensions a) and b) at a temperature of from  $-80^{\circ}\text{C}$  to  $60^{\circ}\text{C}$  and wherein the molar ratio of suspension b) to suspension a) is less than 2;
- d) crystallising the product obtained in c) from the ether;
- e) retrieving a crystalline powder;
- f) allylating the crystalline powder from step e) with with  $\text{ClMg}(\text{C}_3\text{R}'_5)$  or any equivalent allylating agent in a solvent at a temperature of from  $-80^{\circ}\text{C}$  to  $60^{\circ}\text{C}$ , wherein  $\text{R}'$  is hydrogen or a hydrocarbyl having from 1 to 20 carbon atoms;
- g) retrieving a neutral complex of formula



- 6. The method of claim 5 wherein the molar ratio of suspension b) to suspension a) is about 1.
- 7. The method of claim 5 or claim 6 wherein the salt metathesis reaction is carried out at a temperature of about  $20^{\circ}\text{C}$ .
- 8. The method of any one of claims 5 to 7 wherein the ether is THF or diethyl oxide.
- 9. The method of any one of claims 5 to 8 wherein the solvent is toluene.
- 10. Use of the catalyst component of any one of claims 1 to 4 with or without activating agent or transfer agent to polymerise polar or non polar monomers.
- 11. A process for preparing polymers comprising the steps of:
  - providing the metallocene component of any one of claims 1 to 4;

- optionally providing an activating agent and/or a transfer agent;
  - providing a polar or non-polar monomer and an optional comonomer;
  - maintaining the system under polymerising conditions;
  - retrieving the desired polymer.
12. The process according to claim 11 wherein the non polar monomer is alpha-olefin, ethylene or styrene.
13. The process according to claim 11 wherein the polar monomer is methacrylate or diene.
14. Polymers obtainable by the process according to any one of claims 11 to 13.